

## **Action Level Recommendation for S.40**

**1 ppb is an achievable goal.**

**It is also the only goal that is as protective of children's health as possible.**

The basis of my assessment is outlined here, followed by suggested S.40 language that reflect my assessment.

In many cases, outlets that show high lead are a result of long stagnation times because the outlets are used infrequently; some high-lead outlets have conveniently located low-lead alternative outlets in the vicinity. In both of these cases, schools can remove the high-lead outlets from the system, obviating much in the way of remediation expenses. **Conclusion: schools often have a virtual no-cost remedy (outlet removal) available to them.**

Roughly half of all outlets, which includes outlets installed before new low-lead requirements were in effect, and, indeed, some entire schools currently meet the 1 ppb level. **Conclusion: Many outlets already meet a 1 ppb action level.**

Data show that replacing older fixtures with ones that meet newer lower-lead requirements substantially reduces water lead levels. Although data are limited, in every case (VDH pilot, scientific literature) fixture replacement reduced water lead to  $\leq 3$  ppb and often met a 1 ppb level. **Conclusion: schools have a low-cost remedy (fixture replacement) available that will suffice to meet the 1 ppb level much of the time.**

In cases where fixture replacement is insufficient to meet a 1 ppb action level, schools can revisit whether the outlet is truly needed or whether filter installation (which I'm using generically to stand in for a variety of point-of-use treatment technologies) or larger-scale retrofitting is the preferred option. Filters that are approved for lead removal easily meet a 1 ppb action level. I have tested numerous bottle filling stations, which contain lead filters, and have never detected lead in their water (I can detect down to  $<0.1$  ppb). Filters require maintenance, however, (e.g., replacement, cleaning, disinfection) and are best-used in outlets that are used frequently. Infrequent flow through filters can result in other water quality concerns, such as bacterial growth. Thus, adding a filter should be undertaken thoughtfully, only where appropriate, and with a clear timetable/plan for maintenance. Without a mandated and clear maintenance plan, schools run the risk of neglecting the filters, of providing a false sense of security, and of introducing other water quality concerns. **Conclusion: Filters can be highly effective, but should be used only after more permanent remedies that do not require ongoing maintenance are considered or implemented (new fixtures, outlet removal).**

### Recommended changes to S.40 Draft 4.1

S.40 draft 4.1 location	Language change	Rationale
Page 1 line 20	(1) "Action level" means <del>three</del> one parts per billion (ppb) of lead.	See above
Page 2, line 11-12	(A) has been standing in plumbing pipes at least eight hours <del>and no more than 18 hours</del>	Imposing a maximum stagnation time conflicts with the desire for sampling to accurately represent the system (and therefore children's exposure) under typical-use conditions. If typical conditions include long stagnation times, and the associated high levels of lead that accumulate between uses, then sampling should reflect this.
Page 3, line 17-20	Each child care provider in the State shall test drinking water in a child care facility it owns, controls, or operates for lead contamination as required under this chapter, <del>unless otherwise required to test for lead in drinking water under State law.</del>	Other State law requirements are considerably more lax than what is proposed in S.40, including larger sample volumes and a higher action level. All children within established child care deserve the increased protection of S.40.
Page 8, lines 4-6	The guidance provided by the Commissioner shall reference the U.S. Environmental Protection Agency's 3Ts for Reducing Lead in Drinking Water in Schools <del>and shall favor permanent remedies, including but not limited to outlet removal and fixture replacement, over non-permanent remedies, including but not limited to installation of point-of-use filters, which require ongoing maintenance.</del>	Because of concerns that unmaintained filters will provide a false sense of security, and potentially aggravate other aspects of water quality, permanent lead reduction remedies are preferable. Additionally, when considering less permanent remedies, the need for ongoing maintenance should figure prominently in expense estimates and decision-making. "An ounce of prevention is worth a pound of cure."
Page 9, lines 1-2	(6) requirements for implementation of a lead mitigation plan or other necessary response, <del>including ongoing maintenance plans for any non-permanent remedies,</del> to a reported exceedance of the action level;	This emphasizes the potentially ongoing nature of lead mitigation plans, especially if non-permanent options are selected.